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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/614,586	07/07/2003	Shinichi Horii	9792909-5656	7670

7590 03/10/2004

SONNENSCHN NATH & ROSENTHAL

80th Floor - Sears Towers

233 S. Wacker Drive

Chicago, IL 60606

EXAMINER

DUDDING, ALFRED E

ART UNIT

PAPER NUMBER

2853

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/614,586

Applicant(s)

HORII ET AL.

Examiner

Alfred E. Dudding

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-6,31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-6,31 and 32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☒ Certified copies of the priority documents have been received in Application No. 09/925,154.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

2. Claims 1, 4, and 6 are rejected under 35 U.S.C. 102(a) as being anticipated by Tatsumi et al. (U.S. 6,447,984 B1).

Tatsumi et al. disclose a print head having at least ink-pressurizing cells, Figure 2, elements 210 a-d (printheads), heating elements, Figure 4, element 51, and ink-ejection nozzles, Figures 3 and 4, element 41, the print head comprising a substrate member which forms side surfaces and one end surface of the ink-pressurizing cells and which is provided with the heating elements; Figure 3, element 46, a nozzle-formed member which forms the other end surface of the ink-pressurizing cells, Figure 4, element 40, and in which the ink-ejection nozzles, which individually correspond to the ink-pressurizing cells, are formed; a head frame which supports the nozzle formed member; Figure 12, element 320, and a plurality of substrate units, each of which includes one or more substrate members, are provided for individually ejecting inks of different colors, and wherein the substrate members included in the substrate units are attached to a single nozzle-formed member, Figure 12, elements 310 a-d. Tatsumi et al. disclose a plurality of substrate units, each of which includes one or more substrate members, are provided for individually ejecting inks of different colors, and wherein the substrate members included in the substrate units are attached to a single nozzle-formed member, Figure 12, elements 310 a-d,

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element 51 (single nozzle plate), and Column 16, lines 40 – 44 (substrate units arranged per color). Tatsumi et al. teach that the nozzle formed member may be made of nickel, Column 21, lines 9 – 14.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsumi et al. in view of Lan et al. (U.S. 2001/0048452 A1).

Tatsumi et al. fail to teach the claimed invention in which the print head is a line head.

Lan et al. discloses a line head having a single nozzle plate, Figure 1, clearly seen, single nozzle plate, element 12.

It would have been obvious to one of ordinary skill in the art at the time the invention

was made to use the line head of Lan et al. in the printhead of Tatsumi et al. in order construct a line head that that was easier to assemble and thereby lower production costs.

6. Claims **31** and **32** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tatsumi et al. in view of Matsumoto (JP-2000263768 A).

Tatsumi et al. fail to teach the claimed invention of a printer or a printhead in which the head frame has the same coefficient of linear expansion as the substrate member.

Matsumoto discloses that the head frame, Figure 1, element 20, has the same coefficient of linear expansion as the substrate member, Figure 1, element 30.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use materials in which the coefficient of linear expansion of the head frame the same as that of the substrate member in order to prevent print quality from deteriorating as the printhead changes temperature.

Conclusion

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alfred Dudding whose telephone number is (571) 272-2144. The examiner can normally be reached on Monday-Friday from 8:30 AM to 4:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier, AU 2853, can be reached at (571) 272 - 2149. The fax phone number for this Group is are (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703) 308-0956.

Alfred Dudding

AD
2/23/04


Stephen D. Meier
Primary Examiner